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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,832	06/23/2003	Gerd Loehden	237184US0	6452

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EXAMINER

HUANG, MEI QI

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/600,832	Applicant(s) LOEHDEN ET AL	
	Examiner Mei Q. Huang	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1 and 3-11 is/are rejected.
 7) ☒ Claim(s) 2 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/14/03, 02/27/04</u> | 6) <input type="checkbox"/> Other: _____ |

[Handwritten signature]

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3, 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 3 recites the limitation "a mixing ratios of components A and B ranges between 100:0 and 20:80 parts by weight" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Claim 1 requires at least two components A and B for component b) while claim 3 directs that the component b) may consists only one component, i.e. component A.
4. Claim 6 recites the limitation "(KA) 0-90 percent by mass" in line 4. There is insufficient antecedent basis for this limitation in the claim. Claim 6 recites a possibility of component A without a core which would not meet the gradient or multi-stage structure required by claim 1.
5. Claim 7 recites the limitation "(KB) 0-90 percent by mass" in line 4. There is insufficient antecedent basis for this limitation in the claim. Claim 7 recites a possibility of component B without a core which would not meet the gradient or multi-stage structure required by claim 1.

Claim Rejections - 35 USC § 102/103

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Weier et al. (U.S. Patent No. 6,875,808).

The prior art to Weier et al. provides multiple polymeric additive systems which contain a liquid component and a solid component, wherein the solid component

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contains two or more polymeric additive particles having different composition (Abstract). Furthermore, Weier et al. teach that these particles further differ with regard to their size, and/or their shape (column 4, lines 42-47), and examples of such suitable shapes of particles include rubbery core/hard shell inhomogeneous particles, hard shell/rubbery core particles, particles having more complex (e.g. three-stage, etc.) morphologies (column 11, lines 26-30). Rheology modifiers, UV stabilizers, plasticizers, fillers, and other auxiliary agents being included in the multiple polymeric additive systems can be seen from column 10, lines 66-67, to column 11, lines 1-13.

The only difference between the prior art and the present invention is that Weier et al. do not disclose that the multiple polymeric additive systems can be used as a plastisol composition. However, the courts have held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977); *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to the applicant to show that the prior art products do not necessarily possess the characteristics of the claimed product, i.e. being able to be used as a plastisol composition. See MPEP §§ 2112.01.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kasai (US Patent 6,433,048) in view of Weier et al. (U.S. Patent No. 6,875,808).

The prior art to Kasai relates to core-shell structured acrylic polymer fine particles, which can be dispersed in a plasticizer to make plastisol (column 1, lines 14-19 and Abstract). In addition to the acrylic polymer fine particles, the plastisols can also contain various additives including fillers (column 11, lines 18-20).

The only difference between the prior art and the present invention is that Kasai does not teach that a mixture of different polymer fine particles is incorporated in formulating the plastisols.

The prior art to Weier et al. is adequately presented in paragraph 3 previously in this Office Action and is incorporated herein by reference. Weier et al. disclose that polymer additives have been developed for the purpose of modifying the process characteristics of plastics resins (column 1, lines 64-66) and it is desirable to combine

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compositionally different polymeric additive particles to provide two or more functions (column 2, lines 4-6).

In light of Weier et al.'s teaching of the benefit of including at least two compositionally different polymeric additive particles, i.e. to obtain two or more functions, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the idea of including at least two compositionally different polymeric additive particles, as taught by Weier et al., in Kasai's plastisol formulation motivated by a reasonable expectation of successfully obtaining the corresponding plastisol composition providing two or more functions, as disclosed by Weier et al.

As to claim 3, Weier et al. disclose that the solid component of the multiple polymeric additive systems include at least two different populations of polymeric additive particles (column 4, lines 41-42) and the weight ratio of the first population of polymer particles to the second population of polymer particles are in the range of from 1:99 to 99:1. The prior art to Kasai also establishes a *prima facie* case of either anticipation or obviousness in regard to the instant claim 3. See the Abstract for the description of the fine particles having core-shell structure, which meets the instant claimed A and B ratio of 100:0.

As to claims 4-7, Kasai discloses core-shell ratio in a range from 35:65 to 70:30 (column 18, Table 1), which meets the core-shell ratio of 20:80 – 90:10 required by the instant claim 4; 20:80 – 100:0 required by the instant claim 5; 0:100 – 90:10 required by the instant claim 6; and 0:100 – 90:10 required by the instant claim 7.

As to claims 8-11, Kasai teaches that the plastisols of the invention have excellent storage stability and gelling performance, and furthermore, strength and elongation of the resulting coating films are both excellent. Therefore, they can be widely used for various uses for which vinyl chloride sols have been widely used, for example, abrasion- and corrosion-resistant paints for steel-made bases. Various coating such as chipping resistant coating films for bottoms of, e.g. cars, trucks and buses, and for molding and coating of films, sheets, etc. (see column 17, lines 6-8 and column 18, lines 1-8).

Allowable Subject Matter

7. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant claim is allowable over closest reference to US Patent 6,433,048 to Kasai, US Patent 6,894,108 to Kasai et al., and JP 07-233,299 to Ikegami et al. Each prior art is cited as follows.

US' 048 discloses acrylic polymer fine particles having core-shell structure and plastisol using the same wherein the core polymer and the first shell polymer are substantially identical to that of the present application (Abstract). However, US' 048 does not teach a acrylic polymer fine particles with more than 2-stage structure.

Both US' 108 and JP' 299 relate to acrylate plastisol comprising acrylate polymer fine particles having core-shell structure and disclose that the core-shell

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structure consists of two layer of a core polymer and a shell polymer; a multi-step layer type structure consisting of three or more layers; and a gradient type structure (US' 108, column 8, lines 63-67, JP' 299, Abstract). However, both the prior arts do not specify the contents of the second or third shell of the acrylate polymer particles.

Conclusion

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure. The following references have been cited to show the state of the art with respect to the study of fine polymer particles and the plastisols.

JP 07-233299 to Ikegami

US Patent 5,308,890 to Snyder

US Patent 5,453,458 to Takeuchi et al.

US Patent 6,239,215 to Morita et al.

US Pub. 2001/0044491 to Elser et al.

US Pub. 2004/0053065 to Saiki et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mei Q. Huang whose telephone number is (571) 272-3549. The examiner can normally be reached on 8am - 4pm, Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mei Q. Huang
Examiner

June 6, 2005



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